Making Pregnancy Safer

Assessment of the safety and quality of hospital care for mothers and newborn babies in Turkmenistan

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Abstract

As part of WHO implementation of Making Pregnancy Safer programme an assessment of quality of hospital care for mothers and newborns was carried out in three hospitals in Turkmenistan, following a request by the Ministry of Health and Medical Industry of Turkmenistan. This activity was organized by WHO Regional Office for Europe, in collaboration with UNFPA and USAID, using a new tool for assessment of quality of care for mothers and newborns in hospitals developed by WHO. The aim was to provide a realistic overview of perinatal health care in a homogeneous and valid way, identifying key areas of pregnancy, childbirth and newborn care that need improvement and suggesting priority actions. The assessment's recommendations provide technical guidance to the Ministry of Health and Medical Industry in its commitment to improve mother and child health care and outcomes, in line with the health system reform. The assessment showed that quality of care for mothers and newborn babies has improved in recent years due to the changes in the national legal framework, and the support by partner organizations in training health care providers and follow up activities based on the WHO Making Pregnancy Safer strategic approach and tools. Key areas of care still need substantial improvement such as integration and interaction among different levels, case management of common conditions and complications, and infection prevention, among others. However, examples of good care were observed, proving that it is possible to ensure high quality in spite of deficiencies in health system organization, hospital infrastructure and availability of essential equipment, drugs and supplies.

Keywords

PERINATAL CARE
INFANT CARE
MATERNAL HEALTH SERVICES
QUALITY OF HEALTH CARE
HOSPITALS
OUTCOME AND PROCESS ASSESSMENT (HEALTH CARE)
TURKMENISTAN

Abbreviations

Tool	Assessment of quality of care for mothers and newborn babies in hospitals
EPC	Effective Perinatal Care
HCP	Health Care Providers
IMPAC	Integrated management of pregnancy and childbirth
M&N	Managing Newborn
MoHMI	Ministry of Health and Medical Industry
MPS	Making Pregnancy Safer
QoC	Quality of care
SCCMC	Scientific Clinical Centre of Mother and Child care
WHO-Europe	World Health Organization, Regional Office for Europe
NICU	Neonatal Intensive care Unit
CTG	Cardio-tocography

Contents

1 Executive summary

Following a request by the Ministry of Health and Medical Industry of Turkmenistan (MoHMI), WHO Regional Office for Europe (WHO-Europe) organized an assessment of quality of hospital care for mothers and newborn babies (M&N), in collaboration with UNFPA and USAID, using the *Assessment of quality of care for mothers and newborn babies in hospitals (Assessment Tool)* developed by WHO

The aim was to provide assessments of perinatal health care in a homogeneous and valid way, to identify key areas of pregnancy, childbirth and newborn care that need improvement and suggest priority actions, in order to provide appropriate and technical support to MoHMI for strengthening mother and child health, in the framework of health system and health care reform.

The assessment showed that quality of care (QoC) for M&N has improved in recent years due to the firm commitment by MoHMI to provide a legal framework, and the support of partner organizations in training of health care providers (HCP) and follow up using the WHO Making Pregnancy Safer (MPS) framework, tools and experts. Examples of good care were observed, proving that it is possible to ensure high quality in spite of deficiencies in health system organization, hospital infrastructure and availability of equipment, drugs and supplies.

There is need for significant improvement, in particular in the following areas:

1. Integration and interaction among levels of care are inadequate: many hospitals provide all types of services, ignoring the different levels of the health system.
2. Equipment and supplies are not evenly distributed: new facilities, fully equipped with up-to-date instruments, are under-used, while existing and often overcrowded maternity hospitals lack basic, low cost equipment (stethoscopes, Ambu bags, among others).
3. Case management of even common conditions and complications often does not meet international standards or evidence-based guidelines, whether in obstetric or neonatal care.
4. Measures for preventing infection still fail to include basic practices of proven effectiveness, such as hand washing, and continue to reinforce ineffective ones, such as regular closure of facilities in accordance with outdated sanitary epidemiologic rules.

These factors are serious obstacles for further improving health outcomes of mothers and children, lead to inefficient use of resources, unnecessary out-of-pocket payments and may result in creating real emergencies if not dealt with promptly and appropriately.

Most of the proposed actions require a systemic approach: some are already part of the current reform process. The WHO team of experts presented findings and recommendations to the MoHMI on further steps needed for improving QoC for mothers and newborn babies, which will require a combination of health system reforms and policies relating to:

1. *Stewardship issues*, including improving data collection and their use, development of a good information system, and greater attention to the roles and rights of patients.
2. *Resource generation*: update human resource plans, train appropriate number of HCP with right skills mix, especially midwives, prioritize the building of new health facilities rather than renovating existing ones, and provide basic equipment at all levels.
3. *Service delivery:* regionalization of care and perinatal referral system, particularly for at-risk pregnant women and sick newborn babies, and adopting evidence-based care.
4. *Financing issues*: ensure effective implementation of basic benefit package and decentralize accountability and incentives.

Immediate or short term actions that need not require major system reform include:

1. Re-establish midwifery schools.
2. Support development, officially endorse and disseminate a key set of national clinical guidelines for care in normal birth, infection prevention and management of major obstetric and neonatal complications.
3. Training in: effective perinatal care; managing perinatal complications; evidence-based medicine; and clinical audit for provider teams.

2 Background

WHO-Europe's objective is to promote survival and health of mothers, newborn babies and children, redress inequities and promoting a life course approach that will ensure continuum of care and quality health services, with special focus on the most disadvantaged groups.

The MPS global programme in Turkmenistan has been ongoing for several biennia, and key representatives from the country have participated in WHO-Europe's country and inter-country activities, contributing to the strengthening of different health system functions, such as stewardship (update/development of policies, laws, norms and regulations), resources generation (review and update of organization of medical education), and service delivery (regionalization, in-service training and development/update of clinical protocols and guidelines).

3 National MPS activities in Turkmenistan

MPS activities on mother and child health (MCH) have been ongoing in Turkmenistan for the past five years and implementation is well advanced; MPS has been part of the biennium collaborative agreement between the Ministry of Health (MoH) and WHO Regional Office for Europe (WHO-Europe) since 2000. The CARAK project, was carried out from 1995 to 2000, as a joint commitment by the Ministries of Health of six countries – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan – with the support of WHO-Europe and other international partners, with the main objective to improve maternal and infant health. The results of CARAK were evaluated by experts from the WHO Collaborating Centre for Maternal and Child Health, Trieste, Italy in September 2000 [1].

3.1 Training workshop for engineers/technicians on maintenance of medical equipment, April 2002

This workshop was held under as a follow-up to previous activities in the area of MCH which had highlighted the sub-standard maintenance of medical equipment.

3.2 Orientation and planning meeting, June 2002

The MPS *Orientation and planning* meeting was held at the request of the MoH in Ashgabat from 24 to 26 June 2002, organized by WHO-Europe with support from UNICEF. Participants included MoH officials, representatives from regional and district health authorities, the government medical university, main partners, IGO and NGO. The object was to review existing plans, implementation activities, outcome and challenges encountered, and provide update on the use of WHO tools as a framework for interventions in the field of maternal and perinatal health. The meeting working groups concluded that, for the successful introduction of MPS/PEPC in Turkmenistan, it would be necessary to refocus a number of national policies, as well as revise clinical guidelines of care.

3.3 Essential Obstetric Care, November 2003

The objectives of the MPS training courses are to enhance knowledge, skills, practices and attitudes of perinatal caregivers and train possible future course facilitators. During the training course, working groups draft plans of action in line with WHO recommendations and make a number of recommendations to improve the outcome of maternal and newborn care, including developing of clinical guidelines, updating of legislation (prikaz), and improving maternal and perinatal clinical practices. The training course was held from 17 to 21 November 2004.

[1] Istituto per l'Infanzia IRCCS Burlo Garofolo, Unit for Health Services Research and International Cooperation

3.4 Caesarean section: Review of evidence, December 2004

At the request of the MoH, a five-day workshop on C/s for obstetricians/gynaecologists was held in Ashgabat on 30-4 December 2004, based on concerns regarding the low rate of C/s (3,7%) in a country where perinatal and maternal mortality rates are high. The objective was to provide local health providers with technical assistance in conducting C/s training. A basic component of the workshop was the evaluation of knowledge of participants pre- and post-training.

3.5 Evidence-based Mother and Newborn Care, January 2005

The *Evidence-based mother and newborn* (EBMN) *care* training course is targeted at top-level clinicians, providing them with the basic concept of evidence-based medicine (EBM) and guiding them through active participation and exercises on specific examples. This enables participants to use evidence to develop clinical guidelines and improve clinical practices.

3.6 Evidence-based guidelines for mother and newborn care, July 2007

Evidence-based care is essential to improve clinical outcomes. One way of ensuring that clinicians provide the best possible care for their clients is through the introduction of evidence-based guidelines and protocols into clinical practice. To facilitate this work, the WHO Making Pregnancy Safer Dept. in Geneva has developed *Pregnancy, Childbirth, Postpartum and Newborn Care* (PCPNC) that provides evidence-based recommendations for health care providers in the management of women during pregnancy, childbirth and postpartum, as well as post-abortion, and newborns during their first week of life. PCPNC is a guide for clinical decision-making, and facilities the collection, analysis, classification and use of relevant information by suggesting key questions, essential observations and/or examinations and recommending appropriate research-based information. However, it is a generic guide and needs to be adapted to local conditions and resources. WHO-Europe has therefore developed an approach for adapting PCPNC to countries' needs, which was field tested in Yerevan. It is essential that this generic guide is adapted not only to national and local situation but respect for the needs of women, newborns and communities are ensured.

4 Turkmenistan participation in inter-country activities

Turkmenistan has been actively involved in WHO-Europe and MPS inter-regional activities and has sent representatives to the meetings and workshops listed below.

4.1 Focal points meetings for Mother and Child Health, Malta, October 2000 and 2002

This has been a biennial activity organized by the WHO-Europe Child and Adolescent programme and the Making Pregnancy Safer initiative. The objective is to bring representatives of Member States' MoH together with WHO technical programmes in MCH and other partners to exchange experiences on implementation of interventions at national and district levels and plan for scaling up. New WHO initiatives and tools are introduced and the appropriateness of their implementation at national levels discussed. As of 2004, this activity was replaced by the Family and community health focal points meetings, also held biennially. At the 2002 meeting, a presentation was made on *Upgrading health care centres in Turkmenistan – a collaborative effort with AGFUND.*

4.2 Family and community health focal points meeting, Cyprus, April 2004

The WHO Regional Office for Europe has been promoting family and community health interventions since 1992. As part of the WHO-Europe restructure and rationalization, the FCH section was set up, made

up of the following technical programmes: Child and Adolescent Health, Gender Mainstreaming, Making Pregnancy Safer and Reproductive Health. The FCH focal points meetings were introduced as a continuation of the biennial MCH focal points meeting. This first meeting brought together MoH counterparts, UN and bi-lateral agencies and intern-governmental and non-governmental organizations (IGO and NGO). The objectives were to review and discuss achievements and the challenges in implementing family and community interventions that ensure optimal health status, with special focus on women, children and young people. One of the main issues was how to meet the UN Millennium Development Goals for MCH.

4.3 National Policies and Strategies for Family & Community Health, Turkey, April 2005

In an effort to assist in Member States in the rationalization and effective linkage of national policies and strategies, the WHO-Europe FCH unit organized this activity to discuss how WHO and other partners can provide support for integrating policies and strategies on reproductive health, gender, maternal and perinatal health, and child and adolescent health into health systems at national level. Participants exchanged information on experiences in developing and implementing national policies, the problems of integration and how to overcome these. Presentations were made on examples of implementation of existing national policies and tools that illustrate current best practice.

4.4 Regional Workshop on "Beyond the Numbers", Armenia, June-July 2005

A delegation from MoH Turkmenistan participated to the 2nd regional workshop to introduce *Beyond the Numbers* (*BTN)* in the European Region, which took place in Yerevan, from 27 June to 1 July 2005[2]. *BTN* is a methodology developed by WHO for reviewing maternal deaths and complications and presents five different approaches. The purpose of the workshop was to help countries select the approach or approaches most suitable for their conditions; *BTN* has the overall objective of reducing the burden of maternal and infant death and morbidity. The workshop reviewed the different approaches of investigating maternal deaths and cases of severe morbidity, and each Member State considered the approach most feasible for both the national and institution levels. Participants developed country plans of action for introducing and implementing *BTN* at pilot level, and how expansion can be effectuated at the regional and national levels. Turkmenistan representatives developed four draft plans of action: on *developing a country strategy*; *implementing change, when, where, how to introduce BTN, resources and timeline for introduction*.

4.5 Family and community health focal points meeting, Spain, September 2006

The WHO-Europe FCH section organized this 2nd meeting of national focal points for family and community health in Malaga in September 2006. The meeting gave national counterparts and other partners an opportunity to review and discuss the challenges, achievements and developments in Child and Adolescent Health and Development, Making Pregnancy Safer, Reproductive Health and Research and Gender and Women's Health since the last focal points meeting held in Turkey, 2004. New WHO initiatives and strategies were introduced and their relevance to Member States and partner organizations discussed.

4.6 Meeting of focal points for family & community health, St Julians, Malta, October 2008

The meeting in Malta 2008 involved over a hundred participants, including representatives from Ministries of Health from 27 Member States of the European Region, partners' organizations (UN and NGOs) as well as Heads of WHO Country Offices and National Professional Officers and relevant FCH

[2] The 1st BTN workshop was held in Kyrgyzstan, 2004 for the Central Asian Republics and Kazakhstan.

departments in HQ. FCH focal points in countries addressed their different programmes under the health system framework using the Tallinn Declaration as the basis for discussion. Recommendations from participants were structured under the four health systems functions.
Country representations had the opportunity to strengthen their capacity through the introduction to new tools and lessons learned in the different areas while they could share their own experience through country presentations, plenary and group discussions. Discussion of new approaches, such as addressing equity through the social determinants of health served to facilitate the collaboration between sectors at the country level.

5 Assessment of the safety and quality of hospital care for mothers and newborn babies in Turkmenistan

The assessment of the quality of hospital care for M&N was carried out from 20 to 28 September 2009, within the framework of the broader MPS programme. This activity is part of the the Bi-annual Collaboration Agreement between the MHMI and WHO-Europe.

The activity was organized by WHO, in collaboration with the MHMI, with key contributions by partner organizations UNFPA and ZdravPlus/USAID. The assessment was carried out by a team of international and national experts in midwifery, obstetrics and neonatology, and contributed to disseminateion of the document *Improving maternal and perinatal health: European strategic approach for making pregnancy safer*, developed in line with the Tallinn Charter on Health Systems and recommendations of the Family and Community Health Focal Points meeting (Malta, 2008).

6 Objectives

The objectives of the assessment were to:

1. Identify critical issues concerning the quality of health care provided by different level hospitals to M&N.
2. Suggest actions to improve quality at both central and health facility level, taking into account the underlying factors influencing QoC.
3. Provide an opportunity for a national team of assessors to become familiarized with the *assessment tool* and methods and contribute to future assessment missions.

The assessment exercise was also meant to promote the concept of peer review and quality improvement among hospital managers and HCP.

7 Assessment tool and methodology

The assessment was carried out using the *Assessment of quality of care for mothers and newborn babies in hospitals Assessment tool*, recently developed by WHO-Europe, with technical support from the WHO Collaborating Centre in Mother and Child Health in Trieste, Italy.

The *Assessment Tool* and methodology are based on experience from the use of a paediatric assessment tool, developed in 2001 by WHO and used globally, on WHO-Europe's experience in implementing the MPS programme and the *Effective Perinatal Care* (EPC) training package. Reference standards are from the EPC training package and the WHO global *Integrated management of pregnancy and childbirth* (IMPAC) package of guidelines.

For optimal results, evidence must meet internationally accepted standards and collection of valid information in key areas. The *Assessment tool* is designed to be user-friendly and to stimulate involvement of hospital staff in identifying problems and possible solutions. The outcome should be a careful assessment of all major areas, identifying such problems and factors that have an impact on QoC (infrastructure, supplies, organization of services and case management), focusing on where maternal and newborn mortality and serious morbidity are highest and on factors influencing maternal and neonatal wellbeing.

The *Assessment tool* was designed to provide a comprehensive assessment of the four dimensions of QoC as identified by the WHO *European Strategic Approach for Making Pregnancy Safer:*

- Based on scientific evidence and cost/effectiveness.
- Family centered, respecting confidentiality, privacy, culture, beliefs and emotional needs of women, families and communities.

- Involve women in decision-making for options of care, as well as for health policies.
- Ensure continuum of care from community to the highest level of care, including efficient regionalization and a multidisciplinary approach.

The *Tool* proved to be effective even for HCP with no previous experience in its use, guiding collection and analysis of key QoC information. It will need adaptation and revision before assessments are extended to other hospitals.

8 Preparing for assessment

As a first step, the *Assessment tool* was translated into Russian and sent by WHO-Europe to MoHMI in Turkmenistan for adaption to local conditions. The MoHMI working group decided to keep the full Regional version. It therefore became necessary to carry out some adaptation during the mission to meet local specific conditions. A copy of the *Assessment tool* was sent to each of the three hospitals to be assessed in advance, requesting that the initial section for general information on facility activity be completed.

The international team of assessors (Alberta Bacci, Tengiz Asatiani, Audrius Maciulevicius, Dalia Jeckaite) met in Ashgabat for an additional briefing on how to present the materials and methodology to the national team, distribute tasks among international and national assessors and organize recording and reporting of information.

Prior to start of the assessment visits, the international team held a one-day workshop at the Scientific Clinical Centre of Mother and Child Care (SCCMC) in Ashgabat; participants included national assessors, MoHMI and partners representatives. A presentation was made by Dr Ataeva Olga Moshadovna, Chief Obstetrician, MoHMI, on the present situation in maternal and neonatal health in Turkmenistan. The international experts presented the WHO *Assessment tool* and methodology and how it links to the latest available evidence. Presentations were made also on strengthening the health system to improve M&N health, principles for improving reporting and adoption of the international live birth criteria.

9 Assessment proceedings and methodology

The assessment timeline included one to one and half-days in each hospital, one day for the team to discuss and agree on final scoring, identification of strengths and weaknesses, and comments, one day for preparing a report on each facility and a draft of the final report, and one day for presentation of a summary of findings to representatives of MoHMI and partner organizations.

Three maternity hospitals were assessed:

- Yoloten, 1st level (4 990 births in 2008)
- Mary, 2nd level (2 800 birth in 2008)
- Ashgabat, National Clinical and Scientific and Research Centre of MCH, 3rd level (3 200 births in 2008)

Prior to each visit, the assessment team discussed the main data (patient flow, available outcome and process indicators, infrastructure including availability of equipment drugs and supplies) obtained from the general information section of the questionnaire returned by hospital managers.

A common approach was used during visits. At all three sites, the assessment started with the presentation of scope, aims and methodology; the team also visited the Velayat authorities in Mary and Yoloten, met with hospital directors and heads of maternity and neonatology, including head nurses and midwives. A tour of the facility was made with local HCP during which the team observed the preparedness of the facility, general conditions, i.e. physical structure, presence/absence of supplies, equipment and drugs, cleanliness and organization. The tour included a visit to inpatient and outpatient services in both maternity and neonatal wards, delivery room and nursery. The team then split into groups to carry out the assessment itself, during which selected cases were examined and discussed with patients as were selected clinical records. Interviews were held with HCP and mothers.

Assessors would meet at the end of each visit to organize and discuss the main findings and prepare the presentation to be made to local HCP. Participation of key local professionals at briefing and debriefing sessions and their collaboration throughout visits were quite satisfactory at all sites. A full assessment form with related scores and comments on strengths and weaknesses was prepared for each hospital.

At the conclusion of the visits, the international and national teams met to assemble the information, discuss findings, agree on priority areas for improvement and formulate recommendations, including how to improve the *Assessment tool* and methodology.

A debriefing session was held at the SCCMC in Ashgabat with the MoHMI, key stakeholders and representatives from partner organizations. Summary findings were presented (in a confidential anonymous way) and recommendations discussed. Suggested actions were made using the health system framework to underline that the issues related to quality improvement have links with general conditions and organization of care.

10 Findings

Irrespective of the specificities of each area of care (obstetric or neonatal), the assessment of the safety and quality of hospital care for M&N in the three hospitals showed several common critical aspects.

10.1 Achievements

- Political commitment of Government.
- Support from different partner organizations.
- Care provision, emergency services and essential medicines in principle free of charge.
- Improvement in hospital environment.
- Quality of health care for M&N significantly improved in recent years through:
  - suspension of use of unnecessary medicine and interventions for normal mothers and babies;
  - implementation of preventive measure for selected complications;
  - partnership in labour;
  - rooming-in; and
  - breastfeeding support.
- Attitude of HCP has improved:
  - more open to discussions, challenges and changing practices; and
  - more responsive to families, mothers and babies' needs.

It is important to underline that examples of good QoC were observed, showing that good quality is possible in spite of existent deficiencies in health system organization, hospital infrastructure and availability of equipment drugs and supplies.

10.2 Areas for improvement

In spite of progress achieved with the introduction of the WHO MPS initiative, neither safety nor QoC of M&N can be considered satisfactory and substantial improvement is still needed: the reason lies in how the health system functions, irrespective of whether or not the government supports maternal and newborn health. This results in:

- Continued obstacles to further improvement the health of mothers and children.
- Continued inefficient use of resources, leading to unnecessary out-of-pocket payments.
- It is feared that serious emergencies may occur if this situation is not dealt with promptly and appropriately.

There is no **regionalized** perinatal care system in Turkmenistan, represented by different levels of care defined by volume of services, number of staff and equipment. No established **referral** patterns exist where neonates can be moved to centers where appropriate care is available. Currently, use of the old model of neonatal care persists (from the Soviet period) in which a sick newborn is kept at the hospital of its birth for the first several days before transfer to a higher level of care for continued treatment. In addition, there is no standard way of transferring infants from one facility to another and they are frequently transported by family members in private cars or ambulances without a medically trained person in attendance. There are no special vehicles for newborn transportation.

Resuscitation and treatment of infants with **low birth weight,** or even the full term ones, are substandard in regional hospitals, with some exceptions in Ashgabat. This is because HCP are unable to stabilize the infant's body temperature, supply adequate ventilator support and parental nutrition. Surfactants replacement therapy is not available and the ability to perform laboratory determinations limited - frequent x rays and adequate ultrasound exams.

A number of **norms** and **regulations** are outdated, while key clinical guidelines at national level and diagnostic and therapeutic protocols at facility level do not meet international standards.

In addition, there is a lack of adequate tools and systems ensuring consistency and continuity of care within the services and across the various levels of the health system.

There is no precise definition of **roles** and **responsibilities** of health services and HCP across the different levels of care, leading to informal payments and unclear distinction between public service and private practice, etc.

Some aspects of **organization** in facilities are not efficient (staffing linked to number of beds rather than patients load, inappropriate skills mix, organization of space sub optimal…).

There are no regulations or protocols ensuring that essential **equipment** and **supplies** meet international standards on an equitable basis at all facility levels. Basic **infrastructure** and **hygiene**, such as running water, hot water and heating, are frequently deficient in existing hospitals, while at new, recently built ones, these may be appropriate, but where there are few, if any, admitted patients.

Human resource productivity and skills mix are not adequate (insufficient number of midwives, neonatologists); there are limits in the education and usability of midwifes who are currently not allowed to provide the full scope of their services.

Data collection does not meet international definitions or recommendations. The assessment team is of the opinion that maternal and perinatal mortality reporting provided by hospitals is inaccurate and incomplete. Medical malpractice in Turkmenistan is a criminal offence rather than a matter of civil law and HCP have no protection against excessive legal malpractice claims, and criminal actions against HCP a major concern, added to which there is no procedure for protecting HCP confidentiality. This may, in part, be the reason for inaccuracies in reporting circumstances surrounding maternal and perinatal deaths.

Diagnoses and **management** of **complications**, as well as appropriate infection prevention measures, not only do not meet international standards but are often substandard, whether in obstetric or neonatal care. The main problems lie in the inappropriate use of drugs (unnecessary combining several drugs for each patient and using potentially harmful drugs), intravenous infusions (particularly in neonatology), failure to use international classification of diseases or case management of common conditions and complications based on the latest scientific evidence. This can be linked to a number of factors:

- Outdated knowledge, attitude and skills of HCP.
- Inability to interpret essential lab examinations.
- Insufficient availability of equipment, often making it difficult to comply with international standards, even when theses have been adopted.
- Although key HCP from Turkmenistan have spent time training in facilities abroad, many of these facilities do not use an evidence-based approach to service delivery and organization either.

The reasons underlying these factors may be identified as:

1. Curricular and post-curricular training of most HCP do not include training in science, methodology and deontology to ensure compliance with international standards, nor is in-service training provided for continuous updating of skills, collaborative team work or responsiveness to patients needs.

2. Current organization at hospital level dealing with, for example, clinical records and information systems, with some exceptions, does not address the need for periodical updates on information gathering or case management, revision of protocols, audits, etc.
3. No incentives are in place to ensure efficient use of resources at facility level, or good medical practice/holistic care of patients at individual level.
4. Managers and supervisors follow obsolete criteria.

QoC was often found to be substandard, often poor, particularly in the areas of information, communication, confidentiality, and holistic care of mothers and children. There is not sufficient awareness of the importance of providing patients with adequate information and caring for them holistically.

The main findings for the maternities and neonatal wards in Ashgabat, Mary and Yoloten are reported in Table 1. To ensure confidentiality, names of maternities are replaced by a capital letter. A full assessment report, including scores and detailed findings, was provided to each maternity. The scores represent assessment of the items of each block of the respective areas.

Table 1. Summary of assessment of quality of maternal and neonatal care in 3 maternities (A, B, C), Turkmenistan

Areas	A	B	C	Main problems
Hospital support system	2	1	2	Lack of basic amenities like continuous cold and hot water
				Computerized data collection mainly for administrative and not clinical use
				Lack of cheap but effective drugs with proven effectiveness
				Substandard clinical record keeping
				Seasonal closing hospitals for so-called hygienic conditions
				Poor reliability of some key indicators e.g. nosocomial infections
Maternity ward/ nursery and neonatal ward	2	1	2	Availability of basic equipment needs improving, especially for neonatal care unit
				Maintenance – significant problems in all places
				Family members and visitors not allowed
				Maternity wards overcrowded
				Rational distribution of obstetric and pathological beds required
				Insufficient number of toilets for parturient
				Maternity staff driven by quantitative norms instead of patient flow
Care for normal	1	1	3	No national clinical guidelines or local protocols on management of normal labour and delivery

labour and delivery				Free delivery positions not supported
				Insufficient involvement of midwifes in labour and delivery
				Insufficient number of labour wards considering the number of births
				Partograph usually completed after birth, therefore not used for decision making
				Vaginal examinations conducted without indications
				Warm chain is not properly maintained
				Absence of capacities for contamination and puncture proof containers for needles and sharps disposal
				Monitoring of fetal well-being in labour, substandard
Routine neonatal care	2	3	3	Frequent use of drugs of unproven effectiveness during the treatment of sick newborn babies
				Mothers not involved in treatment of sick newborn babies
				Communication with mothers and families to be improved
				Privacy and confidentiality not respected
Caesarean section	3	2	3	No national clinical guidelines or local protocols on indications and procedures
				In most cases, use of general anaesthesia
				Cleanness and sterility not ensured
				Informed consent not fully operational
				Operating rooms needs monitor equipment for safe surgery
				Postoperative care not adequately supervised
Case manage-ment of ternal complica-tions	2	1	2	No national clinical guidelines or local evidence based protocols
				Lack of national standards or protocols supporting appropriate prescription of essential medicines and banning use of non effective drugs
				Lack of strict diagnostic definitions of postpartum haemorrhage, labour dystocia, severe pre-eclampsia
				Infusion of IV solution not adequately controlled
Case	2	-	-	No national clinical guidelines or local evidence based protocols

manage-ment of sick newborn				on
				Monitoring charts of newborn babies admitted in NICU not filled up in proper way
				Mothers not involved in treatment of sick newborn babies
				Calculation of feeding needs of sick newborn babies not properly figured out
				Equipment in NICU not adequate for providing effective care
Emergency admission and care	2	2	2	Emergency admissions need to improve concept of preparedness (light, essential drugs, oxygen supply)
				Privacy and confidentiality need to be improved
				Lack of algorithms and protocols for emergency care in emergency situations
				In some cases structural problems to transport patient to delivery or operating room
Infection prevention and supportive care	1	1	1	Insufficient infection control
				Excess painful and inappropriate procedures in neonatal department
				Insufficient communication with women
				Lack of printed information
Monitoring and follow up	2	1	1	Monitoring actions reportedly performed but not appropriately recorded
				For some severe conditions, monitoring not frequent enough
				There is no link between midwife/nurse chart and medical chart
Guidelines, auditing and team work	1	0	2	No protocols and algorithms for major conditions (only some examples)
				Lack of internal audit and team work
Access to Hospital	2	2	2	Over hospitalization in obstetric/pathologic department
				Women poorly informed on danger signs in pregnancy complication and time for hospitalization
				No established referral system for mother and newborn

Interviews with HCP (5 obstetrician/gynaecologists, 3 neonatologists, 3 midwives, 3 nurses) provided some interesting insights into issues related to QoC. Critical issues for quality were consistently identified in the following:

1. Lack of basic infrastructure (running water, warm water, heating system, toilet hygiene and patients washing facilities, quality of the food for patients).
2. Lack of some drugs, supplies and equipment (CTG, ultrasounds, assisted ventilation).
3. Lack of staff in certain areas (neonatology) and periods (nights, weekends).
4. Insufficient on-the- job training scheduled Continuous Medical Education.
5. The need for updated clinical protocols was mentioned in a few interviews; providing better information to mothers was recognized by many.

11 Recommendations

The assessment was sufficient to get an overall clear view of the level of care in most important areas, care components, strengths and weaknesses that could be generalised for the whole country.

11.1 How to improve QoC for M&N and children in Turkmenistan

The situation and shortcomings can be linked to a combination of factors and will require a systemic approach, using health system functions, to be corrected. To address the problems described and their underlying causes, substantial changes will be needed in how:

1. **Stewardship** and **governance** functions, includes key aspects of guideline development, collection and use of all relevant health information.
2. Health services are organized and **delivered**, including such aspects as information given to patients and responsiveness to non-medical needs.
3. **Resources** for health, particularly human resources, are planned and managed.
4. Health system is **financed**, including both public expenditure and out-of-pocket payments, and how financial resources are used, taking into account the need for equitable distribution.

The list of suggested actions in Table 2 is the result of discussions within the assessors team, both international and national, and of discussions during the debriefing session with the MoHMI and partner organizations at the SCCMC.

Table 2 Framework of suggested actions

Those feasible in the short term without major system reforms are given in italics. Some may be feasible at local level without major MoHMI support, based on local resources and staff availability.

Local/Facility level	National/MoHMI level
Stewardship and governance	
Improve role of nurses and midwives	*Support development and/or update of evidence based national clinical guidelines for normal birth and key maternal and neonatal complications, including rational use of medicines and blood products, and ensure official endorsement*
Ensure staff access to internet-based knowledge management facilities	*Introduce, in both curricular and in-service training, methodological training to evidence based practice and quality improvement*
Contribute to establishing information system based on essential indicators; run periodic team meetings to discuss data (system should not be used only for admin purposes, but also to review clinical practice and organizational issues)	*Disseminate training activities based on existing guidelines and tools (e.g. WHO EURO EPC) and organize national team of trainers*
Redistribute staff (medical and nursing) based on actual needs by level of care and work-load	*Continuous medical education including distance learning and access to internet-based knowledge management (tools are available free in accessible languages, i.e., English and Russian for obstetric and neonatal care)*
	Training of key providers in other countries should be recommended only in sites where evidence based practices are implemented
	Support work on organization of perinatal referral system, involving all levels of care providers
	Improve data collection, for better analysis and use in planning, avoiding blame and punishment
	Establish a national MCH information system based on a few essential indicators
	Consider training sessions for hospital managers and /or run periodic (twice a year) meetings of hospital heads to discuss process and outcome indicators and organizational problems
Service delivery	
Develop, disseminate and use evidence based clinical protocols for main conditions for different levels of care, including care in normal birth,	Develop, disseminate and use evidence based national clinical guidelines for main conditions including care in normal birth, infections

infections prevention, and key maternal and neonatal complications, including rational use of medicines	prevention, and key maternal and neonatal complications, including rational use of medicines and blood products
Improve record keeping and monitoring	Establish criteria for national perinatal referral system, including regionalization criteria, criteria for in utero transfer and facilities, skills for neonatal transportation
Improve communication with patients and parents assigning specific roles also to nurses and midwives on patient communication	Revise role of small hospitals with respect to deliveries (e.g. only low risk?); identify structural, equipment, staffing requisites for each level of care
Contribute to dissemination of effective perinatal care	Develop guidelines and tools for continuity of care, including mothers and children's individual records
Support implementation of evidence based infection prevention measures, including appropriate use of blood products	*Develop, together with health care providers, simple written information for parents on common conditions (ad hoc working groups to be established)*
Enhance role of midwives	Regulate private professional activity (e.g. consider regulated "in hospital" private activity)
Financing	
Introduce monitoring of main cost indicators (drug use, patient flow by levels of care)	Implement budget decentralization to improve accountability, availability and appropriate use of essential drugs and supplies at health facility/peripheral administrative level
Contribute to monitoring implementation of basic benefit package	Identify essential drugs and equipment list for each level of health care and for most common conditions; include in budgetary plans for each facility
	Consider performance based financial incentives to facilities
	Organize monitoring of implementation of basic benefit package
	Develop and enforce regulations regarding private professional work
Resource generation and management	**Human resources:**
Redistribute staff (both medical and nursing staff) based on needs by level of care	*Re-open midwifery schools in order to ensure adequate and timely output of needed number of professionals at all levels of care*
Ensure basic commodities to all health facilities	Revise human resource plan in line with existing needs and with development of perinatal

(water cold and hot, and electricity, ..)	regionalization system
Ensure basic equipment and supplies, and essential medicines at all levels	Plan pre-service (curricular) training accordingly
Develop and implement plan for maintenance	Revise pre-service curricula to introduce key concepts of evidence based medicine, patient communication, quality improvement and clinical audit
	Establish standards for health professional practice
	Strengthen post-graduate training for key professional figures, with special regards to midwives
	Infrastructure
	Revise plan for building new facilities, and for maintenance of existing ones
	Ensure basic equipment and supplies, and essential medicines at all levels
	Develop and implement plan for maintenance

Many of these suggested actions will require major system reforms; some are already being considered and are part of the current reform process. Prioritization and optimal phasing in are therefore a matter to be decided by the MoHMI, based on such factors as expected impact, feasibility, affordability, consistency with current plans for health system reforms, relevant policies, strategies, plans.

11.2 How best to conduct the assessment

1. A first consideration concerns the **agenda of the assessment** that, organized by the Country Office, proved to be appropriate and well planned.

- Relevant recommendation: for future assessments, not less than a full working day in each hospital, plus at least half a day per hospital, possibly at the end of the mission, for collecting and discussing findings.

2. **Availability of a full multidisciplinary team** at the international and national team is crucial. A competent team of national assessors was recruited and prepared for this mission. Because of a last minute decision to assess SCCMC, where the majority of the national assessors worked, who might find difficulty in evaluating their colleagues, they were replaced by other national evaluators with the necessary expertise (including familiarity with international standards).

- Relevant recommendation: make timely arrangements for identifying appropriate members for the national team, ensuring that their work experience and professional profile (which may not necessarily coincide with their formal training) matches assessment requirements.

The presence of a nursing professional on the team is extremely important as she can provide a unique insight into important procedures, such as monitoring, care of the mother and child, overall hygiene, information and counselling, besides increasing the viability of obtaining information from other HCP and mothers.

3. The **interviews with staff and mothers** have a potential of providing important insights into dimensions of care that would otherwise only be superficially evaluated. To be fully utilized, the interviews need to be numerous, requiring time and interviewing skills, particularly with mothers. In the present assessment, an effort was made to do as many interviews as possible in the time and with the human resources available, including the need for translation while ensuring confidentiality, etc.

- Relevant recommendation: allocate sufficient time for interviews, ideally peer-to-peer between HCP. Staff, particularly those interviewing mothers, should have basic interviewing skills that can be acquired in one day (basic interviewing principles plus a number of supervised sample interviews).

4. **Extending assessment to other hospitals.** Not surprisingly, we found major consistencies across all three hospitals; differences and exceptions exist, but the main problems appear, not unexpectedly, to be the same across the system. In consequence, we do not feel it would be useful to assess a great number of other hospitals.

- Relevant recommendation: a follow up assessment could be planned once recommendations have been fully discussed and implementation has been initiated. This would allow evaluation of progress and identification of areas for further improvement and related actions. The national team has sufficient experience to allow them to follow-up both at facility and decision making levels.

11.3 Using, adapting and revising the *Assessment tool*

1. **The *Assessment tool*** proved to be excellent instruments to obtain relevant, focused, action-oriented information at both local (health facility) and central level (Ministerial). Although the international team was familiar with it, with exception of the team leader none had been involved in its use before. In spite of this, the whole team was satisfied with how the *Assessment tool* performed in relatively "new hands". The national team was enthusiastic with its structure and overall philosophy and it is hoped that these few days of close collaboration were sufficient to get them familiarized with its use.

- Relevant recommendation: prior to the assessment, allow sufficient time for the national assessors to become familiar with the *Assessment tool*. When new members join a team in future evaluations, they should be adequately instructed on its use.

The *Assessment tool* proved to be effective, even for those with no previous experience, to guide collection and analysis of key QoC information. It is important to continue involving international experts in QoC assessments as local HCP have not yet acquired the knowledge and skills in appropriate clinical practices to assess other's practices. The assessment tool will need adaptation and revision before it is used further.

2. **The *Assessment tool*** was designed for the European Region and includes several items appropriate only for assessing tertiary level care. Other minor issues need correction and some need more accurate translation into Russian.

- Relevant recommendation: Minor changes and updates will take place following suggestions by the assessment teams. The *Assessment tool* could be revised to clearly indicate (e.g. color coding or other analogue options) items appropriate for different levels of care. There is also room for simplification. The revised *Assessment tool* will be made available to WHO Country Office, MoHMI and partners.

3. **Appropriate use of the *Assessment tool***. It should be emphasized that the guiding principle in conceiving the *Assessment tool* was to provide a cost-effective and cost-efficient approach to assessments, aiming at the right balance between relevance, completeness and precision on one side and feasibility, affordability and sustainability on the other. This balance requires compromise between number of observations, number of items, possibility to double check, number of assessed facilities, etc. The current internationally validated instruments for quality

assessment, certification and accreditation (such as ISO 9001, Joint Commission International, and others) require an enormous amount of internal and external resources (in the range of a few hundred thousand USD per hospital) and timeline ranging from 2 to 3 years, which makes them barely affordable by the most affluent health systems.

- Relevant recommendation: assessors, as well as those who will be using the assessment results, need to be familiar with the characteristics, advantages and limitations of the *Assessment tool* and avoid the temptation of adding too much complexity and analytical purpose to a system designed to be and remain synthetic and feasible. The *Assessment tool* can and should be adapted to fit different health system contexts and, most importantly, levels of care. Revisions and modifications should be kept within reasonable quantitative terms and maintain the *Assessment tool's* guiding principle of prioritizing a synthetic view of the most critical QoC issues rather than an in depth analysis of each single aspect of care. As a consequence, particularly for newcomers, it should be understood that each single item of the assessment check list is never an objective per se. A balanced outline of care is prioritized over an in-depth analytical view of a few specific items.

4. **The questionnaires** distributed to health facilities prior to the assessment for collection information on patient flow, staff, main outcome and process indicators, infrastructure, availability of equipment, drugs and supplies, were only partially completed but even so proved valuable, mainly to quantify patient flow and staff availability. The lack of adequate statistical systems precluded reliable description of main indicators, as well as availability of essential equipment, drugs and supplies, due to the difficulty of describing complex and varying situations, not only on actual availability, but also quality and functionality.

- Relevant recommendation**:** questionnaires are useful for involving hospital managers in the assessment process, providing assessors with a preliminary idea of hospital characteristics and some of the main issues regarding infrastructure, staffing and equipment. However, all questionnaire information should be checked as much as possible during the visit, through review of hospital registers and other source of printed information, and discussing issues with those in charge of the services (whose view of problems may differ from that of hospital managers).

5. **The interviews** are a vital part of the assessment, and it was important to have someone responsible for them. Although the interviewers assured that the interviews were absolutely anonymous and confidential, it needs to be kept in mind that four members of the national team were on the staff of one of the maternities, which may have tainted or influenced answers. In some interviews, lack of privacy may also have affected answers.

- Relevant recommendation: allow more time for interviews, ensure sufficient confidentiality and chose interviewers who are unlikely to influence answers (e.g. HCP from other cities and/or professional areas) to increase reliability.

11.4 Development of national guidelines

Global experience tells us that guidelines are likely to be implemented only if sufficient ownership is built among HCP, in particular leading professionals and professional associations, during development and adoption. SCCMC has recently developed guidelines on main obstetric conditions and complications, however; these are not in line with international standards. There are no guidelines for neonatology at all. Both these areas of care seem to require more support in terms of guideline development. Introductory training workshops based on IMPAC and EPC packages should be offered, with follow-up on technical support for guideline development, through a national working group, possibly with international technical support.

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13 Annexes

Annex 1 – Programme

- **19 September, Saturday**
  - Ashgabat: Meeting with Natasha Vasova, ZdravPlus, to finalize logistics of internal travel and timetable of assessment visits.
- **20 September, Sunday**
  - Preparation of the workshop: international experts' meeting
- **21 September, Monday**
  - Workshop on Quality of Care assessment and use of WHO Assessment tool
  - International and national team of experts,
  - Scientific-Clinical Center of MCH, Ashgabat
- **September 22, Tuesday**
  - Travel to Mary
  - Assessment: Mary, regional MCH hospital
- **September 23, Wednesday**
  - Finalize assessment Mary hospital, meeting with local staff on findings and recommendations
  - Afternoon: Travel to Yoloten
  - Assessment: Yoloten, district maternity house
- **September 24, Thursday**
  - Finalise assessment Yoloten hospital, meeting with local staff on findings and recommendations
- **September 25, Friday**
  - Travel to Ashgabat
  - Assessment: Scientific-Clinical Center of MCG in Ashgabat
- **September 26, Saturday**
  - Scientific-Clinical Center of MCG in Ashgabat: meeting with local staff on findings and recommendations
  - Technical meeting of national and international teams of assessors: compilation of findings
- **27 September, Sunday**
  - Meeting international assessors to finalise reports and accompanying letters to the three maternity hospitals' teams, and prepare meeting with national stakeholders; anonymyze finding; draft summary recommendations
- **September 28, Monday**
  - Morning, WHO Office: Meeting of the team of international assessors and HCO to agree on recommendations
  - Afternoon: Meeting with MoHMI key stakeholders and partners: national and international team of assessors provide short summary feedback on findings and major recommendations.

Annex 2 – List of Participants

- **International experts:**

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Professor and FRCOG, Head of Department of Reproductive Health of State Medical University, Tbilisi, Georgia

Alberta Bacci,
WHO Regional Coordinator, Making Pregnancy Safer, Country Policy and Systems, European Regional Office.

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- **National team of assessors in Mary and Ioloten**

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Garryeva Gul Kandymovna
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